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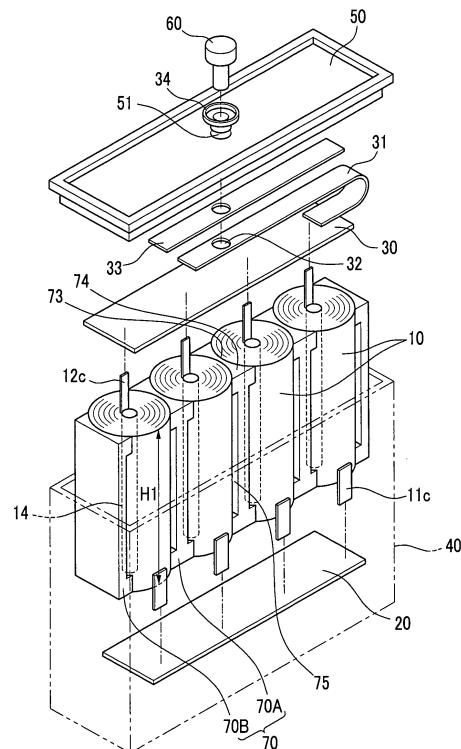
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(54) **Rechargeable battery**

(57) A rechargeable battery that solves a safety problem of a high-capacity of electrode group, that reduces a circuit device and parts that connect cells, that prevents cell swelling, and that prevents leaning of an electrolyte solution is provided.

The rechargeable battery includes a plurality of electrode groups (10) that are housed within a can (40) and that are coupled in parallel, and a spacer (70) that is interposed between the electrode groups to spatially separate neighboring electrode groups.

**FIG.2**



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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT				
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
X	US 7 332 244 B2 (UEMOTO SEIICHI [JP] ET AL) 19 February 2008 (2008-02-19)	1-4,7-17	INV. H01M2/10 H01M2/14 H01M2/18 H01M10/617 H01M10/654 H01M10/6555 H01M10/04	
Y	* column 2, line 50 - column 4, line 35 * * column 4, lines 45-62; figures 1-6 *	5,6		
X	JP 2008 210729 A (HITACHI VEHICLE ENERGY LTD) 11 September 2008 (2008-09-11)  * abstract; figure 5 *	1-4, 7-13, 15-17		
X	JP 2008 135374 A (MATSUSHITA ELECTRIC IND CO LTD) 12 June 2008 (2008-06-12)  * abstract; figures 1-3 *	1-4,7, 10,14-17		
X	US 2007/264562 A1 (KANG DONGHA [KR] ET AL) 15 November 2007 (2007-11-15)	1-4,7-17		
Y	* paragraphs [0059] - [0085]; figures 1-11 *	5,6		
X	JP 2000 100401 A (FUJI FILM CELLTEC KK; FUJI PHOTO FILM CO LTD) 7 April 2000 (2000-04-07)  * abstract; figures 1-3 *	1-4, 7-11,17		TECHNICAL FIELDS SEARCHED (IPC)  H01M
X	US 2007/190405 A1 (KANG DONGHA [KR] ET AL) 16 August 2007 (2007-08-16)	1-4,7-17		
Y	* paragraphs [0010] - [0021], [0023] - [0027], [0037] - [0047]; figures 1-7 *	5,6		
The present search report has been drawn up for all claims				
Place of search <b>The Hague</b>		Date of completion of the search <b>3 March 2014</b>	Examiner <b>Crottaz, Olivier</b>	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document		

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ON EUROPEAN PATENT APPLICATION NO.

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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03-03-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7332244	B2	19-02-2008	JP 5049436 B2 17-10-2012
			JP 2003109655 A 11-04-2003
			US 2003064283 A1 03-04-2003
-----			
JP 2008210729	A	11-09-2008	CN 101257130 A 03-09-2008
			JP 4906538 B2 28-03-2012
			JP 2008210729 A 11-09-2008
			US 2008206628 A1 28-08-2008
-----			
JP 2008135374	A	12-06-2008	NONE
-----			
US 2007264562	A1	15-11-2007	CN 101820053 A 01-09-2010
			EP 1969655 A1 17-09-2008
			TW 200805742 A 16-01-2008
			US 2007264562 A1 15-11-2007
			US 2011189509 A1 04-08-2011
			WO 2007075019 A1 05-07-2007
-----			
JP 2000100401	A	07-04-2000	JP 3824039 B2 20-09-2006
			JP 2000100401 A 07-04-2000
-----			
US 2007190405	A1	16-08-2007	CN 101385160 A 11-03-2009
			EP 1984965 A1 29-10-2008
			JP 5221386 B2 26-06-2013
			JP 2009527075 A 23-07-2009
			KR 20070081602 A 17-08-2007
			TW 1335095 B 21-12-2010
			US 2007190405 A1 16-08-2007
			WO 2007094565 A1 23-08-2007
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